

WHAT IS CLAIMED IS:

Sub
A.1)

1. An ink jet recording apparatus for effecting recording on a recording material by ejecting ink with relative scanning movement between a recording head and the recording material, said ink jet recording apparatus, comprising:

obtaining means for obtaining information indicative of an amount of ink to be ejected to each of unit areas provided by dividing an area in the neighborhood of a boundary between adjacent bands of scanning recording of said recording head on the recording material; and

control means for controlling an amount of being to be ejected to the unit area on the basis of the output of said obtaining means,

wherein the unit areas exist astride the boundary between adjacent one of the bands.

2. An ink jet recording method of effecting recording on a recording material by ejecting ink with relative scanning movement between a recording head and the recording material, said ink jet recording method, comprising:

an obtaining step of obtaining information indicative of an amount of ink to be ejected to each of unit areas provided by dividing an area in the neighborhood of a boundary between adjacent bands of

09891589.062701

Sub
A10
cont

scanning recording of said recording head on the
recording material; and

a control step of controlling an amount of
being to be ejected to the unit area on the basis of
the information provided by said obtaining step,

5 wherein the unit areas exist astride the
boundary between adjacent ones of the bands.

10 3. A data processing method of processing data
to be supplied to an ink jet recording apparatus for
effecting recording on a recording material by
ejecting ink with relative scanning movement between a
recording head and the recording material, said data
processing method, comprising:

15 an obtaining step of obtaining information
indicative of an amount of ink to be ejected to each
of unit areas provided by dividing an area in the
neighborhood of a boundary between adjacent bands of
scanning recording of said recording head on the
recording material; and

20 a control step of controlling an amount of
being to be ejected to the unit area on the basis of
the information provided by said obtaining step,

25 wherein the unit areas exist astride the
boundary between adjacent ones of the bands.

4. An ink jet recording apparatus for effecting

09891589.062701
102290.68516860

Sub
A10
Cont

recording on a recording material by ejecting ink using a recording head having a plurality of recording elements, said ink jet recording apparatus comprising:

5 recording scanning means for effecting recording with relative scanning movement between the recording head and the recording material in a main scan direction;

10 subscanning means for imparting relative scanning movement between the recording material and the recording head in a direction which is different from the main scan direction substantially each time after completion of recording scan in the main scan direction;

15 dot count means for counting ink ejection data number for each of unit areas provided by dividing an area in the neighborhood of a boundary between adjacent bands of scanning recording of said recording head on the recording material;

20 determining means for determining a thinning rate for each of the unit areas on the basis of an output of said dot count means; and

thinning means for effecting a thinning process to the ink ejection data on the basis of the thinning rate determined by determining means,

25 wherein the unit areas exist astride the boundary between adjacent one of the bands.

09891589-062701
102290-68516860

Sub
A10
cont.

5. An apparatus according to Claim 4, wherein said dot count means counts the ink ejection data number with weighting for each of the bands.

5 6. An ink jet recording apparatus according to Claim 4, wherein said dot count means counts the ink ejection data number with weighting which is different in the sub-scan direction.

10 7. An apparatus according to Claim 4, wherein the recording head ejects a plurality of inks.

15 8. An ink jet recording apparatus for effecting recording on a recording material with relative scanning movement between a recording head and the recording material, said ink jet recording apparatus comprising:

20 obtaining means for obtaining information indicative of an amount of ink to be ejected to each of unit areas provided by dividing an area in the neighborhood of a boundary between adjacent bands of scanning recording of said recording head on the recording material; and

25 control means for controlling an amount of the ink ejected to an area to be thinned in the unit area on the basis of an output of said obtaining means;

09891589.062701

Sub
A-10
cont)

wherein the inks of the unit area and the area to be thinned are different from each other.

9. An ink jet recording method of effecting recording on a recording material by ejecting ink with relative scanning movement between a recording head and the recording material, said ink jet recording method, comprising:

an obtaining step of obtaining information indicative of an amount of ink to be ejected to each of unit areas provided by dividing an area in the neighborhood of a boundary between adjacent bands of scanning recording of said recording head on the recording material; and

a control step of controlling an amount of the ink ejected to an area to be thinned in the unit area on the basis of an output of said obtaining means;

wherein the inks of the unit area and the area to be thinned are different from each other.

10. A data processing method of processing data to be supplied to an ink jet recording apparatus for effecting recording on a recording material by ejecting ink with relative scanning movement between a recording head and the recording material, said data processing method, comprising:

09691589.062701

Sub
A10
cont)

an obtaining step of obtaining information indicative of an amount of ink to be ejected to each of unit areas provided by dividing an area in the neighborhood of a boundary between adjacent bands of scanning recording of said recording head on the recording material; and

a control step of controlling an amount of the ink ejected to an area to be thinned in the unit area on the basis of an output of said obtaining means;

wherein the inks of the unit area and the area to be thinned are different from each other.

11. An ink jet recording apparatus for effecting recording on a recording material by ejecting ink using a recording head having a plurality of recording elements, said ink jet recording apparatus comprising:

recording scanning means for effecting recording with relative scanning movement between the recording head and the recording material in a main scan direction;

subscanning means for imparting relative scanning movement between the recording material and the recording head in a direction which is different from the main scan direction substantially each time after completion of recording scan in the main scan direction;

09891589.062701

Sub
A10
Acom

dot count means for counting ink ejection data number for each of unit areas provided by dividing an area in the neighborhood of a boundary between adjacent bands of scanning recording of said recording head on the recording material;

5 determining means for determining a thinning rate for each of the unit areas on the basis of an output of said dot count means; and

10 thinning means for effecting a thinning process to the ink ejection data for an area to be thinned in the unit area on the basis of a thinning rate determined by said determining means.

15 12. An apparatus according to Claim 11, wherein said thinning area is divided into a plurality of areas for each of which the thinning rate is determined, and said thinning means effects the thinning process on the basis of the thinning rate determined for each of the areas.

20 13. An apparatus according to Claim 11, wherein said determining means determines the thinning rate in accordance with the output of said dot count means and a distance from the boundary.

25 14. An apparatus according to Claim 11, wherein the unit areas exist astride the boundary between

09891589.062701

Sub
A10
cont)

adjacent one of the bands.

15. An apparatus according to Claim 14, wherein the area to be thinned is set only in one of the adjacent bands.

5

16. An apparatus according to Claim 14, wherein the area to be thinned is set only in one of the bands adjacent a sheet discharging side.

10

17. An ink jet recording apparatus for effecting recording by ejecting ink onto a recording material on the basis of data using a recording head for ejecting the ink through a plurality of nozzles, said ink jet recording apparatus comprising:

15

recording control means for imparting relative movement between said recording head and the recording material and rejecting thing from said recording head in accordance with ink ejection image data to sequentially effecting recording operations for adjacent recording areas by the ink ejected from the recording head; and

20

correcting means for counting data indicative of ejection of the ink for boundary areas of adjacent recording areas and reducing the ejection data for the boundary areas.

25

09891589.062701

Sub
A10
Cont

18. An apparatus according to Claim 1, wherein said correcting means counts the data for a line of pixels corresponding to each of the nozzles of the recording head effecting the recording for the boundary areas.

5

19. An apparatus according to Claim 2, wherein an amount of the reduction is predetermined, and wherein an error between the predetermined amount and an actually reduced amount is added to an amount to be reduced for another line of pixels.

10

20. An apparatus according to Claim 17, wherein said recording head ejects by a pressure of a bubble generated by thermal energy.

15

21. A method of correcting image data for an ink jet recording apparatus for effecting recording by ejecting ink onto a recording material on the basis of data using a recording head for ejecting the ink through a plurality of nozzles, said apparatus imparting relative movement between said recording head and the recording material and rejecting thing from said recording head in accordance with ink ejection image data to sequentially effecting recording operations for adjacent recording areas by the ink ejected from the recording head, the

20

25

09891589.062701

Sub
A10
contd

improvement residing in:

a step of correcting the ink ejection data by counting data indicative of ejection of the ink for boundary areas of adjacent recording areas and reducing the ejection data for the boundary areas.

5

22. An apparatus according to Claim 21, wherein said correction step counts the data for a line of pixels corresponding to each of the nozzles of the recording head effecting the recording for the boundary areas.

10

23. An apparatus according to Claim 22, wherein an amount of the reduction is predetermined, and wherein an error between the predetermined amount and an actually reduced amount is added to an amount to be reduced for another line of pixels.

15

20

25

09891589.062701